WHAT IS CLAIMED IS:

1. A field sequential liquid crystal display device, comprising:

a liquid crystal panel having an upper substrate, a lower substrate, and an interposed liquid crystal layer;

a back light under the lower substrate for irradiating light onto the liquid crystal panel, said back light including at least three light sources; and

a signal processing circuit electrically controlling a luminance of each of the light sources.

2. A field sequential liquid crystal display device according to claim 1, wherein the light sources include Red, Green and Blue.

3. A field sequential liquid crystal display device according to claim 1, wherein each light source is disposed at a lower corner of the liquid crystal panel.

4. A field sequential liquid crystal display device according to claim 1, wherein each light sources is disposed under the liquid crystal panel.

5. A field sequential liquid crystal display device according to claim 1, further including a panel for uniformly dispersing light from the back light onto the liquid crystal panel.

6. A field sequential liquid crystal display device according to claim 1, wherein said signal processing circuit is for receiving image data, for determining the average lumination in the image data, and for electrically controlling the luminance of each of the light sources based on the determined average lumination.

7. A field sequential liquid crystal display device according to claim 6, wherein said signal processing circuit is further for controlling the transmissivity of the liquid crystal such that the perceived lumination of the field sequential liquid crystal display device during a frame is dependent on the lumination in the image data.

8. A field sequential liquid crystal display device according to claim 7, wherein the transmissivity of the liquid crystal is controlled by turning on thin-film transistors during sub-frames.

9. A field sequential liquid crystal display device according to claim 8, wherein the light sources are turned on and off during each sub-frame while thin-film transistors are turned on.

10. A field sequential liquid crystal display device according to claim 1, wherein said signal processing circuit is for receiving image data, for determining an emphasized color in the image data, and for electrically controlling the luminance of at least one light source to produce an image having the emphasized color in the image data is emphasized.

11. A field sequential liquid crystal display device according to claim 10, wherein said signal processing circuit is further for controlling the transmissivity of the liquid crystal to emphasize the emphasized color in the image data.

12. A field sequential liquid crystal display device according to claim 10, wherein the light sources are turned on and off during sub-frames.

13. A method of displaying a color image using a field sequential liquid crystal display device having upper and lower substrates, an interposed liquid crystal layer, and a back light having Red, Green, and Blue light sources, the method comprising the steps of:

converting frame-based image signal data into luminance values Ra, Ga, and Ba that are to be produced during sub-frames of each frame period, wherein each sub-frame is one-third of a frame period; and

driving the Red, Green, and Blue light sources in sequential sub-frames so as to produce respective luminances Ra, Ga and Ba.

14. The method according to claim 13, wherein the liquid crystal is aligned in each sub-frame, and wherein an associated light source is turned on and off while the liquid crystal is aligned in each sub-frame.

15. The method according to claim 13, wherein the luminances Ra, Ga and Ba are average luminance values.

16. The method according to claim 13, wherein the luminances Ra, Ga and Ba are produced by controlling both the liquid crystal alignment and the light source luminances.

17. The method according to claim 16, wherein the luminance values Ra, Ga and Ba are in accord with the following:

$$Rx \times (Tr \times Tk) = Ra$$

$$Gy \times (Tg \times Tk) = Ga$$

$$Bz \times (Tb \times Tk) = Ba$$

where Tr, Tg, and Tb are transmissivities of the liquid crystal, Rx, Gy, and Bz are luminances of the light sources, and Tk is a transmissivity of the liquid crystal panel.

18. The method according to claim 13, wherein the liquid crystal alignment and the luminance of the light source of the back light can be controlled by varying an electric signal.

19. The method according to claim 13, wherein if one of the luminances Ra, Ga, and Ba is greater than an average value of the Ra, Ga, and Ba, the transmissivity of the liquid crystal and the luminance of the light source at the sub-frame displaying an image having the bigger luminance is set as a maximum value.

20. The method according to claim 13, wherein the alignment direction of liquid crystal molecules and the luminance of the light source of the back light can be controlled by varying an electric current.